



BAY PROTECTION AND TOXIC CLEANUP PROGRAM

**List of Reports
Completed and
in Preparation**

May 1999

STATE OF CALIFORNIA

**STATE WATER
RESOURCES
CONTROL BOARD**

DIVISION OF WATER QUALITY

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DIVISION OF WATER QUALITY

BAY PROTECTION AND TOXIC CLEANUP PROGRAM
LIST OF REPORTS COMPLETED AND IN PREPARATION

May 1999

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BAY PROTECTION AND TOXIC CLEANUP PROGRAM
LIST OF REPORTS COMPLETED AND IN PREPARATION

This document lists the Bay Protection and Toxic Cleanup Program (BPTCP) reports that have been completed or are in preparation. A list of the data collected through the BPTCP monitoring activities is presented in the appendix.

The BPTCP started the task of identifying toxic hot spots and planning for their cleanup in 1990. The reports listed include many of the documents developed while the program was just getting underway as well as reports on all of the monitoring data collected to date. The BPTCP has also completed many reports on tasks leading up to development of regional and consolidated toxic hot spot cleanup plans.

To date, the BPTCP has produced 55 scientific reports, currently under completion or finalized and 43 staff reports.

The Bracketed bold numbers at the end of each reference [No.] are BPTCP report index numbers. Any of the indexed reports are available for inspection. Reports that are not numbered are currently unavailable because they are in preparation, or out of print. Some reports are large and may require special printing arrangements to be made in order to make them available. Please make reference to the index number when ordering a specific report. To request a report please contact:

Bays and Estuaries Unit
Division of Water Quality
State Water Resources Control Board
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SCIENTIFIC REPORTS

Anderson, B. S., J.W. Hunt, M. Hester, and B. M. Phillips, 1996. Assessment of Sediment Toxicity at the Sediment-Water Interface. Techniques in Aquatic Toxicology. Chapter 33, pp 609-624. CRC Press, Inc. [73]

Anderson, B., J. Hunt, B. Phillips, J. Newman, R. Tjeerdema, C. J. Wilson, G. Kapahi, R. A. Sapudar, M. Stephenson, M. Puckett, R. Fairey, J. Oakden, M. Lyons, and S. Birosik. 1998. Sediment Chemistry, Toxicity and Benthic Community Conditions in Selected Water Bodies of the Los Angeles Region. 232pp, 7 appendices. [93]

Anderson, B. S., Hunt, J.W., Phillips, B.M., Tudor, S., Fairey, R., Newman, J., Puckett, H.M., Stephenson, M., Long, E.R. and Tjeerdema, R.S. 1998. Comparison of marine sediment toxicity test protocols for the amphipod *Rhepoxynius abronius* and the polychaete worm *Nereis (Neanthes) arenaceodentata*. *Envir. Toxicol. Chem*, Vol 17, No.5, pp 859-866. [50]

Anderson, B.S., J.W. Hunt, S. Tudor, J. Newman, R. Tjeerdema, R. Fairey, J. Oakden, C. Bretz, C.J. Wilson, F. LaCaro, M. Stephenson, M. Puckett, J. Anderson, E.R. Long, T. Fleming, and K. Summers. 1997. Chemistry, Toxicity, and Benthic Community Conditions in Sediments of Selected Southern California Bays and Estuaries. 146 pp. + 3 Appendices. [8F]

Anderson, J.W., K. Bothner, J. Means, D. McMillin, T. Vu, and R. Tukey. 1995. Correlation of CYP 1A1 Induction, as Measured by the P450 RGS Biomarker Assay, with Benzo(a)pyrene Equivalents (BaPTEQs) in Extracts of Mussels Deployed at Various Sites in San Diego Bay. 10pp. + Appendix. [12A1]

Anderson, J.W., S.S. Rossi, R.H. Tukey, T. Vu, and L.C. Quattrochi. 1995. A biomarker, P450 RGS, for assessing the potential toxicity of organic compounds in environmental samples. *Environmental Toxicology and Chemistry*. 14(7):1159-1169. [12B]

Bretz, C., J. Oliver, J. Oakden, and P. Slattery. 1993. Bay Protection and Toxic Cleanup Program Los Angeles Harbor Benthic Sampling (August - September 1992). Moss Landing Marine Laboratories. 32pp. + 4 Appendices. [1D]

Buchanan, P.A., D.H. Schoellhamer, and R.C. Sheipline. 1996. Summary of Suspended-Solids Concentration Data, San Francisco Bay, California, Water Year 1994. San Francisco Regional Water Quality Control Board, U.S. Army Corps of Engineers, Interagency Ecological Services. U.S. Geological Survey Open File Report 95-776. 48pp. [15]

Chapman, P. M., Anderson, B., Carr, S., Engle, V., Green, M. R., Hameedi, J., Harmon, M., Haverland, P., Hayland, J., Ingersoll, C., Long, E., Rogers Jr., J., Salazar, M., Sibley, P. K., Smith, P.J., Swartz, R. C., Thompson, B. and Windom, H. 1997. General Guidance for Using the Sediment Quality Triad. *Marine Pollution Bulletin*, Vol 34, No. 6, pp 368-372. [74]

- Clark, S. L., J. Bruns, V. Connors, J. Cooke, B. Croyle, C. Foe, M. McGraw, S. Morford, and Sue Yee. 1998. Metal Concentrations, Loads, and Toxicity Assessment in the Sacramento/San Joaquin Delta: 1993-1995. 215pp, 4 Appendices. [89]
- Crepeau, K., K. Kuivila, C. Foe, V. Connor, and H. Bailey. 1995. Algal Toxicity Identification Evaluation - TIEs. CVRWQCB and U.S. Geological Survey. 11pp. [13J]
- Deanovic, L.E., H. Bailey, T.W. Shed, and D.E. Hinton. 1996. Sacramento-San Joaquin Delta Estuary Bioassay Monitoring Report, 1993-94. First Annual Report to the Central Valley Regional Water Quality Control Board. 69 pp. + 5 Appendices. [13E]
- Deanovic, L.E., H. Bailey, T.W. Shed, and D.E. Hinton. In review. 1994-95 Sacramento-San Joaquin Delta Estuary Bioassay Monitoring Study, Annual Report. University of California Davis Report.
- Deanovic, L., K. Cortright, K. Larsen, E. Reyes, H. Barley, and D. E. Hinton. 1998. Sacramento-San Joaquin Delta Estuary Bioassay Monitoring report 1994-1995. Second Annual Report to the Central Valley Regional Water Quality Control Board. 92pp, 15 Appendices. [87]
- Downing J., R. Fairey, C. Roberts, E. Landrau, R. Clark, J. Hunt, B. Anderson, B. Philips, C. J. Wilson, F. LaCaro, G. Kapahi, K. Worcester, M. Stephenson, M. Puckett. 1998. Chemical and Biological Measures of Sediment Quality in the Central Coast Region. 84pp, 6 Appendices. [92]
- Fairey, R., C. Bretz, S. Lamerdin, J. Hunt, B. Anderson, S. Tudor, C.J. Wilson, F. LaCaro, M. Stephenson, M. Puckett, and E.R. Long. 1996. Chemistry, toxicity, and benthic conditions in the San Diego Bay region. 162 pp. + 5 Appendices. [5B]
- Fairey, R., J. Downing, C. Roberts, E. Landrau, J. Hunt, B. Anderson, C. J. Wilson, G. Kapahi, F. LaCaro, P. Michael, M. Stephenson, and M. Puckett. 1998. Chemistry, Toxicity, and Benthic Community Conditions in Sediments of the San Diego Bay Region. Final Addendum Report. 21pp, 7Appendices. [94]
- Fairey, R., Roberts, C., Jacobi, M., Lamerdin, S., Clark, R., Downing, J., Long, E., Hunt, J., Anderson, B., Newman, J., Tjeerdema, R., Stephenson, M., Wilson, C. 1998. Assessment of Sediment Toxicity and Chemistry in the San Diego Bay Region. Environ. Toxic. Chem, Vol 17, No. 8, pp 1570-1581. [51]
- Fairey, R., Taberski, K., Lamerdin, S., Johnson E., Clark, R. P., R., Downing, J.W., Newman, J., Petreas, M. 1997. Organochlorines and other environmental contaminants in muscle tissue of sportfish collected from San Francisco Bay. Mar. Poll. Bull, Vol34, No. 12, pp 1072-1077. [52]

Flegal, A.R., R.W. Risebrough, B. Anderson, J. Hunt, S. Anderson, J. Oliver, M. Stephenson, and R. Packard. 1994. San Francisco Estuary Pilot Regional Monitoring Program: Sediment Studies. [41]

Foe, C.G. 1995. Greens landing metals sampling. Staff memorandum. Central Valley Regional Water Quality Control Board. Sacramento, CA. [13G]

Foe, C.G. In preparation. Transport of suspended sediment and metals into the Sacramento-San Joaquin Delta Estuary during 1995. Staff Report. Central Valley Regional Water Quality Control Board. Sacramento, CA.

Foe, C. G. and B. Croyle. 1998. Mercury Concentration and Loads from the Sacramento River and from Cache Creek to the Sacramento - San Joaquin Delta Estuary. 81pp, 2 Appendices. [88]

Foe, C., L. Deanovic., and D. Hinton. 1998. Toxicity Identification Evaluations of Orchard Dormant Spray Storm Runoff. 41pp. 2 Appendices. [90]

Gross, E.S., J.R. Koseff, and S.G. Monismith. 1996. A Study of Transport in a Shallow Estuary. Stanford University. 25 pp. + Appendix. [17]

Hendricks, T., and R. Eganhouse. 1992. Modification and Verification of Sediment Deposition Models. Southern California Coastal Waters Research project. 330pp [72]

Hansen and Associates. 1996. Development of Guidelines for Conducting Toxicity Identification Evaluation on Estuary Sediments in San Francisco Bay. [6C]

Hunt, J.W., B.S. Anderson, B.M. Phillips, J. Newman, R. Tjeerdema M. Stephenson, M. Puckett, R. Fairey, R.W. Smith, and K. Taberski. 1998. Evaluation and Use of Sediment Reference Sites and Toxicity Tests in San Francisco Bay. 132 pp. + 4 Appendices. [6B]

Hunt, J. W., B. S. Anderson, B. M. Phillips, J. Newman, R.S. Tjeerdema, K. Taberski, C. J. Wilson, M. Stephenson, H. M. Puckett, R. Fairey, J. Oakden. 1998. Sediment Quality and Biological Effects in San Francisco Bay. BPTCP Final Technical Report. 183 pp, 7 Appendices. [85]

Jacobi, M., R. Fairey, C. Roberts, E. Landrau, J. Hunt, B. Anderson, B. Phillips, C. J. Wilson, G. Kapahi, F. LaCaro, B. Gwynne, M. Stephenson, M. Puckett. 1998. Chemical and Biological Measures of Sediment Quality and Tissue Bioaccumulation in the North Coast Region. 79pp, 6 Appendices. [91]

Kimball, T., L. Deanovic, D. Hinton. 1997. Rainbow Trout Toxicity Testing Results of the Sacramento River and Tributaries. Semi-Annual Report. December 1996- August 1997. Data Appendix. Aquatic Toxicology Lab UCD. [98]

Kuivila, K. M. and K. L. Crepeau. 1999. Laboratory Study of the Response of Select Insecticides to Toxicity Identification Evaluation Procedures. USGS Water- Resources Investigations Report 99-4004. 8pp [96]

Larsen, K., L. Deanovic, H. Bailey. August 1996- July 1997. Sacramento River Watershed Program Toxicity Testing Results. Quarterly Reports. 5 Volumes. [97]

Luoma, S.N., A. van Geen, B.G. Lee, J. Cloern, and D. Schoellhamer. 1996. Effect of Resuspension and Phytoplankton Primary Production on Metal Cycling in South San Francisco Bay. Draft Report. U.S. Geological Survey. 33pp. [16]

Long, E.R., and C.J. Wilson. 1997 On the Identification of Toxic Hot Spots using Measures of the Sediment Quality Triad. Marine Pollution Bulletin, Vol. 34, No. 6, pp. 373-374. [71]

Newman, J.W. 1998. Expanded Characterization of Polyaromatic Hydrocarbons in Castro Cove Surficial Sediments. 30pp. [106]

Okihiro, M.S. and D.E. Hinton. 1996. A comparative evaluation of biomarker methods using fish captured from the Los Angeles Harbor area. Department of Anatomy Physiology and Cell Biology, University of California, Davis. 165 pp. [1E]

Phillips, B.A., Anderson, B.S. and Hunt J.W. 1997. Measurement and distribution of interstitial and overlying water of ammonia and hydrogen sulfide in sediment toxicity tests. Marine Environmental Research, Vol 44, No. 2, pp 117-126. [53]

Phillips, B., B. Anderson, J. Hunt, J. Newman, R. Tjeerdema, C. J. Wilson, E. R. Long, M. Stephenson, M. Puckett, R. Fairey, J. Oakden, S. Dawson, H. Smythe. 1998. Sediment Chemistry, Toxicity and Benthic Community Conditions in Selected Water Bodies of Santa Ana Region. BPTCP Final Report. 105 pp, 6 Appendices. [86]

Riege, L.E., and R. W. Smith. 1996. DOD Sediment Criteria Project Ambient Analysis Interim Report: Final. EcoAnalysis, Inc. 18pp. + Appendix. [14]

Sanders, B. 1994. Biomarker Evaluations of Biological Effects in *Mytilus* Exposed to Multiple Stressors in San Diego Bay. Molecular Ecology Institute. California State University, Long Beach, CA. 6pp. + 5 Appendices. [12C]

Sanders, B. 1995. Biomarker Evaluations of Biological Effects in *Mytilus* Exposed to Multiple Stressors in San Diego Bay. Phase 1, Task 1. Evaluation of Biomarkers of Exposure in Deployed Mussels Exposed to Contaminants *in situ*. Molecular Ecology Institute, California State University, Long Beach. 6pp. + Appendix. [12D]

- Sanders, B. 1995. Biomarker Evaluations of Biological Effects in *Mytilus* Exposed to Multiple Stressors in San Diego Bay. Phase 1, Task 3. Chemical Analysis of Juveniles. Molecular Ecology Institute, California State University, Long Beach. 15pp. + Appendix. [12E]
- Sanders, B. 1995. Biomarker Evaluations of Biological Effects in *Mytilus* Exposed to Multiple Stressors in San Diego Bay. Phase II, Task 1. Field Report Molecular Ecology Institute, California State University, Long Beach. [12F]
- Sanders, B. 1996. Biomarker Evaluations of Biological Effects in *Mytilus* Exposed to Multiple Stressors in San Diego Bay. Data and Statistical Summaries. Molecular Ecology Institute, California State University, Long Beach. [12G]
- Sanders, B. 1996. Biomarker Evaluations of Biological Effects in *Mytilus* Exposed to Multiple Stressors in San Diego Bay. Phase II. Progress Reports. Molecular Ecology Institute, California State University, Long Beach. [12H]
- Sanders, Brenda, M. Salazar, and S. Steinert. Draft. Cellular Biomarker of Environmental-Induced Damage and growth in *Mytilus* Deployed in San Diego Bay. [12J]
- Sanders, Brenda, S. Steinert, M. Salazar, J. Means, J. Newman, and K. Jenkins. Draft. Bioaccumulation of Contaminants in Mussels Deployed in San Diego Bay, California. [12I]
- Slotten, D.G., S.M. Ayers, J.E.Reuter, C.R.Goldman. 1997. Cache Creek Watershed Preliminary Mercury Assessment, Using Benthic Macro-Invertebrates. Division of Environmental Studies, University of California, Davis 36pp. [13K]
- Smith, R.W. 1994. Identification of Toxic Sediments in San Diego Bay. EcoAnalysis, Inc. 26pp. [45]
- Steinert S.A. and B.M. Sanders. Draft. Detecting DNA Damage in Hemocytes of *Mytilus* Deployed in San Diego Bay Using the Comet Assay. [12K]
- Stephenson, M. 1992. A report on bioaccumulation of trace metals and organics in bivalves in San Francisco Bay. California Department of Fish and Game. [43]
- Stephenson, M., M. Puckett, N. Morgan, and M. Reid. 1994. Bay Protection and Toxic Cleanup Program Quality Assurance Project Plan. 12 Sections and 1 appendix. [18]
- Taberski, K.M., M. Carlin, and J. Lacy. 1992. San Francisco Bay Pilot Regional Monitoring Program 1991-1992 Summary Progress Report. San Francisco Bay Regional Water Quality Control Board. [40]
- University of California, Santa Cruz. 1993. Report of Sediment Toxicity Test Results:

San Francisco Bay Regional Monitoring Program for Toxic Contaminants in the San Francisco Estuary. 32 pp. [46]

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Brodberg, R.K., K. Kan, and G.A. Pollock. 1993. Strategy for establishing sediment quality objectives based on human health risk assessment. Office of Environmental Health Hazard Assessment, California Environmental Protection Agency. Sacramento, CA. 33 pp. [31]

DWQ/SWRCB. 1990. Bay Protection and Toxic Cleanup Program: Proposed Authorization to Negotiate and Execute Contracts and Advice of Staff Action attached to Agenda Item. 11/9/90. [32]

DWQ/SWRCB. 1991a. Staff Report: Bay Protection and Toxic Cleanup Program Annual Fees Responses to Comments Received. Sacramento, CA. [33C]

DWQ/SWRCB. 1991b. Staff Report: Laboratory services interagency agreement to support the Bay Protection and Toxic Cleanup Program. Sacramento, CA. 12 pp. + 1 attachment. [34]

DWQ/SWRCB. 1992. Staff Report: Technical Services Interagency Agreement with Teale Data Center to support the Bay Protection and Toxic Cleanup Program Consolidated Database. Sacramento, CA. [35]

DWQ/SWRCB. 1993. Draft Staff Report: Criteria to rank toxic hot spots in enclosed bays and estuaries of California. Sacramento, CA. 27 pp. + 3 Appendices. [39]

DWQ/SWRCB. 1994. Staff Report: Interagency agreement with the Department of Fish and Game to support the monitoring and research activities of the Bay Protection and Toxic Cleanup Program. Sacramento, CA. 18 pp. [37]

DWQ/SWRCB. 1995a. Draft Functional Equivalent Document: Development of the Water Quality Control Policy for Implementation of the Bay Protection and Toxic Cleanup Program. Sacramento, CA. 358 pp. [21]

DWQ/SWRCB. 1995b. Draft Staff Report: Status of the Bay Protection and Toxic Cleanup Program. 29pp. + Appendices. [26]

DWQ/SWRCB. 1995c. Workshop on the Future Direction of the Bay Protection and Toxic Cleanup Program. List of Workshop Presenters and Written Comments. Sacramento, CA. 109 pp. [22]

DWQ/SWRCB and the Teale Data Center. 1992. Feasibility study for establishing the Water Resources Control Board's Bay Protection and Toxic Cleanup Program Data Management System. Sacramento, CA. [36]

DWQ/SWRCB. 1998. Draft Functional Equivalent Document. Water Quality Control Policy for Guidance on the Development of Regional Toxic Hot Spot Cleanup plans. Plus - Notice of Public Hearing on the proposed Water Quality Control Policy. [70]

DWQ/SWRCB. 1998. Final Functional Equivalent Document. Water Quality Control Policy for Guidance on the Development of Regional Toxic Hot Spot Cleanup plans. Plus - SWRCB Resolution No. 98-090 and Water Quality Control Policy. [83]

Kolb, L.P. 1995. Review of the Bay Protection and Toxic Cleanup Program. A Report to the State Water Resources Control Board. San Francisco Bay Regional Water Quality Control Board. 11 pp. [24]

Lorenzato, S.G., A. Gunther, and J.M. O'Connor. 1991. Summary of a workshop concerning sediment quality assessment and development of sediment quality objectives. Aquatic Habitat Institute. Richmond, CA. [30]

Lorenzato, S.G. and C.J. Wilson. 1991. Workplan for the development of sediment quality objectives for enclosed bays and estuaries of California. SWRCB Report No. 91-14WQ. [29]

Regional Water Quality Control Board, San Francisco Bay Region; State Water Resources Control Board, California Department of Fish and Game. 1995. Contaminant levels in fish tissue from San Francisco Bay. Oakland, CA. 150 pp. [7A]

Scientific Planning and Review Committee. 1997. Recommendations on the Bay Protection and Toxic Cleanup Program Monitoring Activities. 23 pp. + 2 Appendices. [48C]

Smith, R.E. and R.T. Cheng. 1994. Defining intertidal bathymetry of the southern extreme of South San Francisco Bay. U.S. Geological Survey, Menlo Park, CA. [42]

SWRCB. 1991a. Final Statement of Reasons Title 23, Division 3, Chapter 9, Article 6, Section 2236, California Code of Regulations: Bay Protection and Toxic Cleanup Annual Fees. [33A]

SWRCB. 1991b. Functional Equivalent Document for development of the Water Quality Control Plans for the Inland Surface Waters of California and the Enclosed Bays and Estuaries of California. SWRCB Resolution No. 91-33.

SWRCB. 1991c. Regulations to Implement the Bay Protection and Toxic Cleanup Program Annual Fees. Title 23, California Code of Regulations Section 2236. SWRCB Resolution No. 91-102. [33B]

SWRCB. 1992a. Draft Functional Equivalent Document: Amendments of the Water Quality Control Plan for Enclosed Bays and Estuaries of California. [19]

SWRCB. 1992b. Final Functional Equivalent Document: Amendments of the Water Quality Control Plan for Enclosed Bays and Estuaries of California. SWRCB Resolution No. 92-100. [20]

SWRCB. 1993. Staff Report: Status of the Bay Protection and Toxic Cleanup Program. Sacramento, CA. 230 pp. + 6 appendices. [25]

SWRCB. 1995a. Appointment of the Advisory Committee for the Bay Protection and Toxic Cleanup Program. SWRCB Resolution No. 95-15. [38A]

SWRCB. 1995b. BPTCP Advisory Committee Operating Procedures. 4 pp. [38B]

SWRCB. 1995c. Implementation Plan for the Bay Protection and Toxic Cleanup Program. Sacramento, CA. 14 pp. [23]

SWRCB. 1996. Legislative Report: Status of the Bay Protection and Toxic Cleanup Program. SWRCB Report No. 96-3WQ. 55pp. [27]

SWRCB. 1997. Public Summary of the report titled Chemistry, Toxicity and Benthic Community Conditions in Sediments of the San Diego Bay Region. 5 pp. [47]

SWRCB. Water Quality Control Policy for Guidance on Development of Regional Toxic Hot Spot Cleanup plans. Plus SWRCB Resolution No. 98-090. [84]

SWRCB and U.S. EPA Environmental Monitoring and Assessment Program. 1994. Measures of Bioeffects Associated with Toxicants in Small Bays and Estuaries of Southern California (Pilot Study). Proposal for a Cooperative Agreement. 27 pp. + 3 Appendices. [8B]

SWRCB and NOAA. 1991. NOAA/California Proposal for a Cooperative Agreement: Measures of Bioeffects Associated with Toxicants in Southern California. State Water Resources Control Board and National Oceanic and Atmospheric Administration. State Water Resources Control Board. Division of Water Quality. Sacramento, CA. [8A1]

SWRCB and NOAA. 1992. Measures of Bioeffects Associated with Toxicants in Southern California: Year Two Proposal to Continue a Cooperative Agreement. State Water Resources Control Board and National Oceanic and Atmospheric Administration. State Water Resources Control Board. Division of Water Quality. Sacramento, CA. [8A2]

SWRCB and NOAA. 1993. Measures of Bioeffects Associated with Toxicants in Southern California: Year Three Proposal to Continue a Cooperative Agreement. State Water Resources Control Board and National Oceanic and Atmospheric Administration. State Water Resources Control Board. Division of Water Quality. Sacramento, CA. [8A3]

SWRCB, RWQCBs, and DFG. 1995. Scientific Planning and Review Committee Briefing Document for the Bay Protection and Toxic Cleanup Program. Sacramento, CA. 89 pp. [48A]

SWRCB, RWQCBs, and DFG. 1996. Scientific Planning and Review Committee Briefing Document for Recommendations on the Bay Protection and Toxic Cleanup Program Monitoring Activities. Sacramento, CA. 75 pp. [48B]

Tappel, M.E., C.J. Wilson, R. Packard, J. Luedtke, G. Huener, and G. Strand. 1994a. Personal computer BPTCP data system users guide and BPTCP email program (Pine) users Guide. Draft Report. Division of Water Quality, State Water Resources Control Board. Sacramento, CA. [28A]

Tappel, M.E., C.J. Wilson, R. Packard, J. Luedtke, G. Huener, and G. Strand. 1994b. Workstation BPTCP data system users guide and BPTCP email program (Pine) users Guide. Draft Report. Division of Water Quality, State Water Resources Control Board. Sacramento, CA. [28B]

UCD. Aquatic Toxicity laboratory, School of Veterinary Medicine. Progress Report. March 4, 1998, June 30, 1998, October 20, 1998, January 4, 1999. Agricultural Management Practices Contract. [102]

Zalom, F.G., M.N. Oliver, D.E. Hinton. Draft. Teaching/ Outreach Documents. Dormant Treatment Options for Orchards in General. 4pp, Dormant Treatment Options for Almond Growers. 5pp, Dormant Treatment Options for Fruit Growers. 5pp. Statewide IPM Project, Centers for Water and Wildlands Resources, and Eco Toxicology Program, UCD. [101]

Draft Teaching/Outreach Documents: Organophosphates and Water Quality: More than just a problem of perception, Dormant Treatment Options, Best Management Practices for Organophosphate Dormant Sprays. [103]

Zalom, F.G., and D.E. Hinton. Draft Final Report. Alternatives to Chlorpyrifos and Diazinon Dormant Sprays. Statewide IPM Project, and Eco Toxicology Program, UCD. 6pp. [104]

TOXIC HOT SPOT CLEANUP PLAN DEVELOPMENT

RWQCB. December, 1997. Proposed Regional Toxic Hot Spot Cleanup Plans. North Coast Region. [67]

RWQCB. December, 1997. Proposed Regional Toxic Hot Spot Cleanup Plans. San Francisco Bay Region. [67]

RWQCB. December, 1997. Proposed Regional Toxic Hot Spot Cleanup Plans. Central Coast Region. [67]

RWQCB. December, 1997. Proposed Regional Toxic Hot Spot Cleanup Plans. Los Angeles Region. [67]

RWQCB. December, 1997. Proposed Regional Toxic Hot Spot Cleanup Plans. Central Valley Region. [67]

RWQCB. December, 1997. Proposed Regional Toxic Hot Spot Cleanup Plans. Santa Ana Region. [67]

RWQCB. December, 1997. Proposed Regional Toxic Hot Spot Cleanup Plans. San Diego Bay Region. [67]

SWRCB. October, 1997. Guidance On Development of Proposed Regional Toxic Hot Spot Cleanup Plans. [66]

SWRCB. 1999. Draft Functional Equivalent Document. Consolidated Toxic Hot Spots Cleanup Plan. Plus Appendix A. Policy, Toxic Hot Spot List and Findings, and Appendix B, Volume II Regional Cleanup Plans. 339pp, plus Appendix A, and Appendix B. [95]

**LIST OF DATA COLLECTED
AS
PART OF THE BPTCP**

LIST OF DATA COLLECTED AS PART OF THE BPTCP

NOAA Cooperative Assessment Project- Year 1 (Los Angeles Harbor)- Regions 4 & 8
[1A][1B]

Legs

1 through 4, plus 3 stations from Leg 5

Sampling dates and regions

Leg 1- 7/29/92 through 8/6/92 - Region 4

Leg 2- 8/18/92 through 8/19/92 - Region 4

Leg 3- 9/1/92 through 9/2/92 - Region 4

Leg 4- 9/15/92 through 9/16/92 - Regions 4 & 8

Leg 5- 10/14/92 - Region 8

Number

111 stations (37 sites with three replicates »100m apart)

Chemical analysis

Organic analysis on 66 stations (Groups 1 & 3)

Metal analysis on 66 stations (Groups 1 & 3)

Pore water metal analysis on 21 stations

TOC & grain size analysis on all 111 stations

Toxicity testing

Red abalone larvae development in pore water on all 111 stations

Amphipod survival in solid phase on all 111 stations

Benthic community

Analysis on all 111 stations

Products

- o Data report for Legs 1-4 & 5 submitted to SWRCB 7/9/93; cruise reports; QA/QC reports for chemistry, toxicity, TOC, grain size, and benthic data
- o Los Angeles Harbor Benthic Program Report - 9/93

BPTCP Screening - All regions statewide [2A][2B]

Legs

5 through 14

Sampling dates and regions

Leg 5- 10/13/92 through 10/14/92 - Region 9
Leg 6- 10/23/92 through 10/28/92 - Region 9
Leg 7- 11/8/92 through 11/11/92 - Region 9
Leg 8- 11/27/92 through 11/30/92 - Region 1
Leg 9- 12/8/92 through 12/11/92 - Region 8
Leg 10- 12/18/92 through 12/22/92 - Region 3
Leg 11- 1/12/93 through 1/14/93 - Region 4
Leg 12- 1/26/93 through 1/27/93 - Region 9
Leg 13- 2/9/93 through 2/11/93 - Regions 3 & 4
Leg 14- 2/23/93 through 2/26/93 - Region 1

Number

153 stations (no replicates)

Chemical analysis

Organic analysis on 72 stations (Groups 2, 4 & 5)
Metal analysis on 72 stations (Groups 2, 3 & 5)
TOC & grain size analysis on all 153 stations

Toxicity testing

Amphipod survival in solid phase on all 153 stations
Red abalone larvae development in subsurface water on 105 stations
Red abalone larvae development in pore water on 4 stations
Urchin fertilization in pore water on 121 stations
Urchin larvae development in pore water on 61 stations
Urchin embryo cytogenetics on 35 stations
Mussel larvae development in subsurface water on 39 stations

Mussel larvae development in pore water on 31 samples
Neanthes survival in solid phase on 45 stations
Neanthes weight change in solid phase on 45 stations

Benthic community

No analysis

Products

Data report for Legs 5-14 submitted to SWRCB 4/20/94; includes all analytical data, cruise reports; QA/QC reports for chemistry, toxicity, TOC, and grain size data

NOAA Cooperative Assessment- Year 2 (San Diego Bay)- Region 9 & BPTCP Reference Stations [3A][3B]

Legs

15 through 19

Number

108 total stations (no replicates)
83 stations were NOAA/EMAP random locations
25 stations were BPTCP reference site screening

Sampling dates and regions

Leg 15- 3/23/93 through 3/25/93 - Region 9
Leg 16- 4/6/93 through 4/7/93 - Region 9
Leg 17- 4/20/93 through 4/22/93 - Regions 9 & 8
Leg 18- 5/4/93 through 5/6/93 - Regions 9 & 8
Leg 19- 5/26/93 through 5/27/93 - Regions 9, 8 and 4

Chemical analysis

Organic analysis on 2 stations (Groups 5)
Organic analysis pending on 15 stations (Group 9)
Metal analysis on 2 stations (Groups 5)
Metal analysis pending on 15 stations (Group 9)
TOC & grain size analysis on all 108 stations

Toxicity testing

Amphipod survival in solid phase on all 108 stations
Red abalone larvae development in subsurface water on 8 stations
Urchin fertilization in pore water on all 108 stations
Urchin larvae development in pore water on 16 stations

Benthic community

No analysis

Products

Data report for Legs 15-23 submitted to SWRCB 4/20/94; includes all analytical data, cruise reports; QA/QC reports for chemistry, toxicity, TOC, and grain size data

BPTCP Confirmation combined with NOAA Cooperative Assessment- Year 2 - Regions 9 & 4 (San Diego primarily; L.A. Region reference stations) [3A][3B][3C][3E]**Legs**

20 through 23

Sampling dates and regions

Leg 20- 6/15/93 through 6/17/93 - Region 9 & 4

Leg 21- 7/20/93 through 7/21/93 - Region 9

Leg 22- 8/3/93 through 8/5/93 - Regions 9 & 4

Leg 23- 8/17/93 through 8/19/93 - Regions 9 & 4

Number

107 total stations

91 analytical stations, 4 blind duplicates, 12 megamuds

41 stations were NOAA/EMAP random locations

20 stations were BPTCP confirmation (with 2 EMAP/NOAA for group of 3)

30 stations were BPTCP confirmation (10 sites with 3 reps)

Chemical analysis

Organic analysis on 94 stations (Group 6)

Metal analysis on 94 stations (Group 6)

TOC & grain size analysis on 95 stations

Toxicity testing

Amphipod survival in solid phase on all 107 stations

Red abalone larvae development in subsurface water on 6 stations

Urchin fertilization in pore water on all 107 stations

Urchin larvae development in pore water on 70 stations

Neanthes weight change in solid phase on 40 stations

Benthic community

Analysis on 90 stations

Products

Data report for Legs 15-23 submitted to SWRCB 4/20/94; includes all analytical data, cruise reports; QA/QC reports for chemistry, toxicity, TOC, grain size, and benthic data

BPTCP Confirmation- Regions 1, 3, 4, 8 & 9 [5A][5C][5D][5E]**Legs**

24 through 30, 32 & 33

Sampling dates and regions

Leg 24- 1/18/94 through 1/20/94 - Region 9
Leg 25- 1/31/94 through 2/2/94 - Regions 4 & 8
Leg 26- 2/15/94 through 2/16/94 - Regions 4 & 8
Leg 27- 3/1/94 through 3/2/94 - Region 9
Leg 28- 3/15/94 through 3/16/94 - Region 9
Leg 29- 3/29/94 through 3/31/94 - Regions 9 & 8
Leg 30- 4/12/94 through 4/14/94 - Regions 4 & 8
Leg 32- 5/18/94 through 5/20/94 - Regions 1, 3, 4, 8 & 9
Leg 33- 6/13/94 through 6/16/94 - Regions 1 & 3

Number

266 total stations
234 stations were BPTCP confirmation (78 sites with 3 reps »20m apart)
32 stations were reference site screening

Chemical analysis

Organic analysis completed on 162 stations (Groups 7 & 8)
Metal analysis completed on 162 stations (Groups 7 & 8)
TOC & grain size analysis completed on all 266 stations
No chemical analysis authorized for legs 30, 32 or 33 (n=90)

Toxicity testing

Amphipod survival in solid phase data completed on all stations authorized
Urchin fertilization in pore water data completed on all stations authorized
Urchin larvae development in pore water data completed on all stations authorized
Neanthes weight change and survival in solid phase data completed on all stations authorized

Benthic community

No analysis authorized

Products

Data report for Legs 24-33 submitted to SWRCB 3/22/95; includes all analytical data, cruise reports; QA/QC reports for chemistry, toxicity, TOC, and grain size data

Reference Site Study- San Francisco Bay [6A][6D][6E]**Legs**

31, 35 and 37

Sampling dates and regions

Leg 31- 4/25/94 through 4/27/94 - Region 2

Leg 35- 9/6/94 through 9/8/94 - Region 2

Leg 37- 3/7/95 through 4/4/95 - Region 2

Number

46 stations

Chemical analysis

Organic analysis completed on 18 stations (Groups 11 & 15)

Metal analysis completed on 18 stations (Groups 11 & 15)

TOC & grain size analysis completed on all 46 stations

Toxicity testing

Amphipod survival in solid phase (*Ampelisca*, *Eohaustorius*) and pore water (*Eohaustorius*) completed on all 46 stations

Urchin larvae development in pore water completed on all 46 stations

Neanthes weight change and survival in solid phase completed on 13 stations

Amphipod survival at sediment/water interface completed on 26 stations

Nubelia survival in solid phase completed on 18 stations

Bivalve development in pore water completed on all 46 stations

Benthic community

No analysis

Products

Data report for Legs 31, 35 & 37 submitted to SWRCB October 1995; includes all analytical data, cruise reports; QA/QC reports for chemistry, toxicity, TOC, and grain size data

Evaluation of sediment toxicity tests and reference sites in San Francisco Bay
Draft Report submitted to SWRCB 5/96

Development of toxicity identification evaluation guidelines for estuarine sediment Final Report submitted to SWRCB 6/96

Fish Tissue Contaminant Study- San Francisco Bay [7B][7C]

Sampling dates and regions

5/3/94 through 6/4/94 - Region 2

Number

66 composite samples from 13 stations

Chemical analysis

Organic analysis on all 66 composite samples

Metal analysis on all 66 composite samples

Dioxin/Furan analysis on 13 composite samples

Products

QA/QC evaluative reports for all analytical data

Contaminant levels in fish tissue from San Francisco Bay - Final Report - June, 1995

An assessment of contaminant levels in fish tissue from San Francisco Bay - scientific paper accepted for publication in peer-reviewed journal - 11/96

EMAP/NOAA/BPTCP Cooperative Pilot Study of Southern California Coastal Lagoons/Estuaries- Regions 8 & 9 [8D][8E]

Legs

34 and 36

Sampling dates and regions

Leg 34- 8/30/94 through 9/1/94 - Region 9

Leg 36- 9/19/94 through 9/21/94 - Region 8 & 9

Number

43 total stations

30 stations were NOAA/EMAP random locations

13 stations were targeted for possible hot spots

Chemical analysis

Organic analysis completed on all 43 stations

Metal analysis completed on all 43 stations
TOC & grain size analysis completed on all 43 stations

Toxicity testing

Amphipod (*Rhepoxynius*) survival test in solid phase completed on all 43 stations
Amphipod (*Ampelisca*) survival test in solid phase completed on 25 stations
Urchin larvae development in pore water test completed on all 43 stations

Benthic community

Benthic samples collected and analyzed from all 43 stations (3 replicates per station)

Products

Data report for Legs 34 & 36 submitted to SWRCB November 1995; includes all analytical data, cruise reports; QA/QC reports for chemistry, toxicity, TOC, grain size, and benthic data.

BPTCP Region 2 Screening: San Francisco Bay [9A][9B][9C]

Legs

38, 39, 40, and 41

Sampling dates and regions

Leg 38- 4/17/95 through 4/19/95 - Region 2
Leg 39- 5/1/95 through 5/2/95 - Region 2
Leg 40- 10/25/95 through 10/27/95 - Region 2
Leg 41- 12/5/95 through 12/7/95- Region 2

Number

95 grab, 9 core stations for BPTCP screening (no replicates); 3 stations collected for TIE project

Chemical analysis

Organic analysis completed on 18 stations authorized; (*)data pending for 2 additional stations (full scan) and 4 additional stations (PCB sediment only)
Metal analysis completed on 18 stations authorized; TBT completed on 6 stations authorized; (*) data pending for 2 additional stations (full scan) and 8 additional stations (mercury in sediment only)
TOC & grain size analysis on all 95 stations

Toxicity testing

Amphipod survival in solid phase completed on all 95 stations
Urchin larvae development in pore water completed on all 95 stations

Urchin larvae development in sediment/water interface core completed on all 9 core samples (*)

Benthic community

No analysis

Products

Data report for Legs 38, 39, 40 and 41 submitted to SWRCB June 1996; includes all analytical data, cruise reports; QA/QC reports for chemistry, toxicity, TOC, and grain size data.

(*)Pending analytical data from Leg 44 (sediment water interface toxicity test and selected chemistry) to be submitted as part of data report from Legs 42-46.

BPTCP Confirmation FY 95/96/Regions 1, 2, 3, 4, and 8 [54]

Legs

42 through 46

Sampling dates and regions

Leg 42- 4/17/96 through 4/18/96 - Region 1 (Humboldt Bay)

Leg 43- 5/9/96 - Region 3 (Monterey Bay ports/harbors)

Leg 44- 6/10/96 through 6/11/96 - Region 2 (S.F. Bay)

Leg 45- 6/19/96 through 6/20/96 - Regions 4 & 8

Leg 46- 7/17/96 through 7/18/96 - Region 4 (Port of L.A.)

Number

Leg 42: 10 sediment samples; 10 resident organism tissue samples

Leg 43: 9 sediment samples; 1 water column sample

Leg 44: 10 sediment cores for sediment/water interface tests

Leg 45: 12 sediment samples

Leg 46: 15 sediment samples, including core samples

Chemical analysis

Organic analysis completed on 40 sediment & 8 pore water samples legs 42, 43, 45, and 46

Metal analysis completed on 37 sediment & 8 pore water samples legs 42, 43, 45, and 46; lead (only) completed on 4 stations leg 42; TBT (only) completed on 8 stations legs 43, 45; SEM-AVS analysis pending (expected by 4/97) for above legs 42, 43, 45, and 46

TOC & grain size analysis completed on 46 stations from above legs 42, 43, 45, and 46

Toxicity testing

Amphipod survival in solid phase completed on 41 stations from legs 42, 43, 45, and 46

Urchin larvae development in sediment/water interface completed on 16 stations from legs 42, 44, 46

Urchin larvae development in pore water completed on 12 stations

Bivalve development in water column completed on 1 station from leg 43

Benthic community

Benthic community analysis authorized on 32 samples; completion of final benthic community data set pending QA/QC evaluation of data

Products

Data Reports for legs 38-42 [54]

Toxicity Test QA/QC Reports for Legs 42-46 [54A]

Toxicity Data Report for legs 42-46 (task Order 1-5, 2-11,3-5,4-6, 4-7, 8-5) [54B]

QA/QC Pore water Trace metals and DOC Chemical Analysis for leg 45 [54C]

BPTCP Confirmation (All Regions Except Region 5) and Screening (Regions 5 and 3)

Legs 47 through 56

Sampling dates and regions link: [fieldata.dbf](#)

Leg 47- 12/37/96 through 12/16/96 - Region 1 (Bodega Bay) and Region 9

Leg 48- 2/4/97 through 2/6/97 - Region 4

Leg 49- 3/17/97 through 4/3/97 - Region 5 (Initial Screening)

Leg 50- 4/1/97 through 4/3/97- Region 2

Leg 51- 4/15/97 through 4/17/97 - Region 2

Leg 52- 5/7/97 through 5/15/97 - Region 3 (Tembladero Slough Screening)

Leg 53- 5/12/97 through 5/15/97 - Region 4

Leg 54- 8/20/97 through 8/21/97 - Regions 4 & 8

Leg 55- 10/6/97 - Region 2

Leg 56- 12/3/97 - Region 2

Number - 115 sediment samples

Leg 47: 13 sediment samples (Region 9- 9; Region 1-4)

Leg 48: 23 sediment samples

Leg 49: 18 sediment samples; 18 water column samples

Leg 50: 15 sediment samples, 5 bioaccumulation samples

Leg 51: 13 sediment samples, 1 TIE sample, 2 bioaccumulation samples

Leg 52: 7 sediment samples; 7 water column samples, 1 TIE sample
Leg 53-12 sediment samples; 7 fish tissue samples, 4 bioaccumulation samples
Leg 54- 7 sediment samples (Region 4- 2; Region 8- 5); 5 water column samples
Leg 55- 4 sediment samples; 3 bioaccumulation samples
Leg 56- 3 sediment samples

Chemical analysis link: Chm47_56.dbf

PAH, PCB and pesticide analyses -- 69 sediment samples; PCB only analyses --
83 additional sediment samples.

Metal analysis -- 57 sediment samples

AVS/SEM analyses -- 53 sediment samples.

TOC & grain size analysis -- 103 sediment samples

Pore water metal analyses -- 2 pore water samples

PAH only analyses -- 2 pore water samples.

Fourteen metal analyses and 38 organic analyses -- tissue samples. Link:

Tiss1_56.dbf

Toxicity testing link: Tox47_56.dbf

Amphipod survival in solid phase exposures -- 112 samples

Urchin larvae development in sediment/water interface core -- 79 core samples.

Daphnid survival in subsurface water -- 4 samples.

Daphnid survival in pore water -- 1 sample.

Daphnid survival in sediment/water interface cores -- 21 samples

Mysid survival in water -- one sample.

Benthic community

Analyses on 59 samples (3 replicates) completed link: **Ben1_56.dbf**

Products

- o Hard copy data reports for Legs 47 through 56 submitted to SWRCB August 1998; includes all analytical data, cruise reports; qa/qc reports for chemistry, toxicity, toc, and grain size data.

Other BPTCP Data and Reports Completed to Date

QA/QC Tissue Metal Analysis - Humboldt Bay [55]

QA/QC Sediment Chemistry (Metals, AVS/SEM) San Francisco Bay, Santa Cruz Harbor, Monterey Harbor, and Southern California [56]

Environmental Chemistry Quality Assurance and Data report for Group 17a. Sediment, Tissue, and Water Analysis. [57]

Environmental Chemistry Quality Assurance and Data report for 1996 Group 17b. Sediments. [58]

Environmental Chemistry Quality Assurance and Data report for 1996 Group 18. Pore Water Analysis. [59]

Environmental Chemistry Quality Assurance and Data report for 1996 Group 19. Sediment Analysis. [60]

QA/QC San Francisco Bay and Southern California (#19 and #20). [61]

Environmental Chemistry Quality Assurance and Data report for 1996 Group 20. Sediment Analysis. [62]

Environmental Chemistry Quality Assurance and Data report for 1996 Group 21. Sediment Analysis. [63]

QA/QC Report for San Francisco Bay (Batch 21 Mercury Analysis). [64]

Cruise reports for legs 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, and 54 [65]

Bloom, N., and E. J. Von der Geest. 1994, 1995, 1996, 1997. Total Mercury Analysis Data Results. Original Data Sheets. Frontier Geosciences Environmental Research Corp. [99]

DFG Water Pollution Control Laboratory. 1996. Toxic Substance Monitoring Program. Trace Elements in Fish Data. [100]